

also invariable in amount, but capable of being changed, not in direction only, but also in other modes of motion, such as heat, light, electricity, vegetable and animal life, thought, emotion and volition. Given matter and motion (and these, it is claimed, *are* given, both being essentially uncreated), by successive stages the universe will come to be as it is, with its planetary and sidereal systems, with its geologic structure, with its plant life, and its animal life, each working up from the lowest to the highest orders, with man and his faculties, with society from its rudimentary barbarism up to the highly organized and complicated forms of civilization; that the whole order of things as known to me would thus—we will not say *be made*, for that would imply some power from without impressed upon the chaos; we will not say *grow*, for that would imply some principle of life within it—but that out of mere atomic matter and motion would automatically *come of itself* the whole order of the heavens and the earth, including all life and humanity in history and society. In favor of this view are to be alleged a great mass of unquestionable scientific facts: 1. All those astronomical facts which tend to confirm the nebular hypothesis—a hypothesis which itself gains strength by being adopted into this larger system or theory. 2. The modern demonstrations of the conservation and correlation of forces, which prove that heat, light, sound, chemical reaction, electricity, magnetism, are all different forms of the same force; that each may be transmuted into motion, and motion into each, and each into every other. 3. The proofs of a close mutual connection between physical motion in these mutually interchangeable forms, and vegetable and animal growth, and muscular power, and even mental action. 4. The facts, already many and oppressive, and steadily accumulating, though always falling short of conclusive proof, which draw us more and more to the belief of the origin of new species by development from former species. These undisputed facts, among others, combine with the charm which we all find in connecting diverse truths together in a simple and unique system, to give to the system of evolutionism its unquestionable currency and